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THE BASIS OF INTEREST.

A CRITICISM OF THE SOLUTION OFFERED BY MR. HENRY
GEORGE.*

My purpose is to examine the theory of interest suggested by Mr. Henry George. I am free to say that I regard Mr. George, in some branches of economic inquiry, as *facile princeps* among all American economists, and that, to my mind, his analysis of the primary notions of rent, wages, labor, capital, production and exchange carries with it, in many important particulars, the persuasion of an absolute demonstration. His work hitherto, although marked by transcendent ability, has been fragmentary from the point of view of the science as a whole: and his leading writing, *Progress and Poverty*, is a performance of very unequal merit. It seems to me that the inquiry into the cause of interest contained in Chapter iii of Book III of *Progress and Poverty*, while it is distinguished by the clearness of statement, which is this writer's greatest charm, and in part by unquestionable ingenuity and success, is, nevertheless, on its positive side, little more than a tissue of fallacies, in which it is not a little remarkable that so acute a mind should suffer itself to become entangled.

It is not my intention to enter into a general discussion of the question of interest. The aim of the present paper is simply to examine the position taken by Mr. George and to point out wherein he seems to have been successful and wherein he has failed or is inconsistent with himself. A man's

*[In justice to the author of this paper it ought to be said that he had no previous acquaintance with Professor Böhm-Bawerk's *Positive Theory of Capital* nor with Professor S. N. Patten's paper upon *The Fundamental Idea of Capital* (*Quarterly Journal of Economics*, Jan., 1889.) The explanation he advances is therefore entirely original, and forms an interesting illustration of the many ways a problem will be approached by independent thinkers when the time is ripe for its discussion.—THE EDITORS.]

views on a special question are often not so much the result of a just analysis of the question itself as of his positions previously taken on other points correlated with the subject under discussion. No one appreciates the effect of this collateral influence on the formation of opinion better than Mr. George, and in the course of his economic writings he has frequently turned his adversary's flank by exposing its occult workings. Yet in his chapter on interest he has given us a most striking instance of this most annoying mental perturbation. It should be remembered that Mr. George is practically a socialist as to land and the natural opportunities of the physical universe, and an individualist as to all production which is the result of labor in any form. He claims for society, as a whole, the benefit which must necessarily accrue to the individual from the pre-emption of any natural physical opportunity, and, while admitting that pre-emption is a pre-requisite to production, he proposes to equalize the resultant inequality by means of the single tax, which shall leave to the occupant the product of his labor, but deprive him of the advantage of his monopoly. Against the transparent equity of this proposition, I may be permitted to say, parenthetically, I have never seen an objection worthy of the consideration of a serious mind. On the other hand, Mr. George will hear nothing of that socialism which proposes to lay hold upon the whole work of production and in the first instance to subject to the general control the special endowment of individual men and to apportion equally their unequal product. He is quite content that the individual should be suffered to retain the full enjoyment of that natural monopoly, his special physical and mental endowment, and he looks with entire complacency upon all inequalities of fortune which arise from such a source.

He has carefully defined rent as the price of monopoly of natural physical opportunities, irrespective of the value added by labor, and hence his condemnation of it. He defines capital as the product of labor devoted to the work of production or exchange; and as capital, by his definition, must

have had its inception in labor, he is not disturbed if the possession of capital shall be found to give to its possessor a further advantage which is not the result of labor. Whether the possession of capital in any form, in the hands of its producer, can give to its owner any advantage which is not the result of labor, is, I think, more than doubtful. But Mr. George is of a different opinion. He maintains that capital is not necessarily dead or inert. Certain forms of capital, like money and spades are inert, he says, but there are other forms like wine, a cow, a swarm of bees, that are not inert, but are endowed with an inherent reproductive force by means of which they multiply in number or increase in value with the lapse of time without the necessity of human intervention. From this circumstance he derives interest. The owner of capital, which in time will of itself produce new wealth, will not part with the possession of that capital during the period required for the consummation of the new and spontaneous product, unless, at the end of that time he receive back his own and the increase. The increase is interest, the surrender of the increase is the payment of interest. Mr. George seems to have been led into this statement of the cause of interest by the attractive analogy which he in this way establishes between rent and interest. According to his view, both these economic phenomena arise from the control in individual hands of certain natural forces. In the first case the landlord can demand rent because he controls the forces to which other men must have access as the condition of successful labor. In the other case the capitalist can demand interest because he possesses capital in a form which will in time yield him a product which is not the result of labor. Interest and rent, therefore, are both paid for something which is not the result of labor, they are neither of them instances of exchange, but are simply tributes to superiority of economic condition under a system of private property. The most natural, though, of course, not conclusive, answer to such a correlation of these two economic phenomena is the *argumentum ad hominem*. How is it that when Mr. George

condemns rent on the ground that by it labor is taxed for the benefit of the non-producer, he can still justify interest, although he says that it is paid by a borrower and producer to secure the lender in the possession of an anticipated product, which, when it arrives, will not be the result of the capitalist's labor.

If Mr. George's conception be the true one, I do not see how he can distinguish between interest and rent. Upon his definition, both these payments in their last analysis represent a tribute paid to the private owner for something which he owns but did not produce. Mr. George's favorite shibboleth is that the laborer is entitled to his product, the whole of his product, and nothing but his product; and as a corollary that no man should own or be entitled to demand payment in exchange for that which he did not produce. I confess that this proposition has, to my mind, much of the force of a self-evident truth. From it he concludes by way of practical application that 'the landlord has no just claim to toll for the use of natural opportunities. But if, as Mr. George maintains, the basis of interest is the independent and inherent productive power of certain kinds of capital—whereby a product arises to the owner, which either in whole or in part is the result, not of labor, but of the spontaneous efficiency of nature, it seems to me that the private command of that spontaneous efficiency is exactly on a par with the private command of natural opportunities, and interest must fall under the same condemnation as rent. Of course, by such a retort we do not show that Mr. George's conception of interest is inexact, but we do convict him of a failure to appreciate the effect and consequences of his own explanation. Upon his premises, such a conception of certain kinds of capital would be a justification for confiscating the product or that part of it which results from the spontaneous efficiency of nature, but could never be made a sufficient social reason for paying interest. Rent and interest fall together, and the result is pure socialism.

It is difficult to see what other reply Mr. George could

make to this objection, except that as the original capital was the result of the owner's labor, he will be entitled to the increase, which is not the result of his labor.

Now, if we should discriminate, as Mr. George does, between the original capital, calling it a product of labor, and the increase, calling it something which is not the product of labor, such a reply would be a complete *non-sequitur*, because labor cannot justify the ownership of something which is not the product of labor. In addition to this, the reason given, if it be effectual at all, would involve a complete abandonment of the hypothesis, for it justifies the ownership of the increase on the ground that at bottom it is the product of labor.

But the real answer to Mr. George is that the whole notion of the reproductive power of capital is a delusion. There is no form of capital which will yield an increase which is not the result of labor. Let us give Mr. George the benefit of his own statement of the case before we undertake to answer him.

"Capital aids labor in all the different modes of production, but there is a distinction between the relations of the two in such modes of production as consist merely in changing the form or place of matter, as planing boards or mining coals, and such modes of production as avail themselves of the reproductive forces of nature, or of the power of increase arising from differences in the distribution of natural or human powers, such as the raising of grain or the exchange of ice for sugar. In production of the first kind, labor alone is the efficient cause; when labor stops, production stops. When the carpenter drops his plane as the sun sets, the increase of value which his plane is producing ceases until he begins his labor on the following morning. When the factory bell rings for closing, when the mine is shut down, production ends until work is resumed. The intervening time, so far as regards production, might as well be blotted out. The lapse of days, the change of seasons is no element in the production that depends solely upon the amount of labor

expended. But in the other modes of production to which I have referred, and in which the part of labor may be likened to the operations of lumbermen, who throw their logs into the stream, leaving it to the current to carry them to the boom of the saw-mill many miles below, time is an element. The seed in the ground germinates and grows while the farmer sleeps or plows new fields, and the ever-flowing currents of air and ocean bear Whittington's cat toward the rat-tormented ruler in the regions of romance.

"Now, what gives the increase in these cases is something which, *though it generally requires labor to utilize it*,* is yet distinct and separable from labor—the active power of nature, the principle of growth, of reproduction which everywhere characterizes all the forms of that mysterious thing or condition which we call life. And it seems to me that it is this which is the cause of interest, or the increase of capital over and above that due to labor. There are, so to speak, in the movements which make up the everlasting flux of nature, certain vital currents, which will, *if we use them, aid us*,* with a force independent of our own efforts, in turning matter into the forms we desire, that is to say, wealth.

"While many things might be named, which, like money, or planes, or planks, or engines, or clothing, have no innate power of increase, yet other things are included in the terms of wealth and capital, which, like wine, will of themselves increase in quality up to a certain point, or like bees, or cattle, will of themselves increase in quantity, and certain other things such as seeds, *which, though the conditions which enable them to increase may not be maintained without labor*,* yet will, when the conditions are maintained, yield an increase or give a return over and above that which is to be attributed to labor.

"Now the interchangeability of wealth necessarily involves an average between all the species of wealth of any special advantage which accrues from the possession of any particular species. For no one would keep capital in one

* The italics are ours.

form when it could be changed into a more advantageous form. . . . And so in any circle of exchange the power of increase which the reproductive or vital force of nature gives to some species of capital must average with all, and he who lends or uses in exchange money or planes, or bricks, or clothing, is not deprived of the power to obtain an increase, any more than if he had lent or put to a reproductive use so much capital in a form capable of increase.

“This interest springs from the power of increase which the reproductive forces of nature and the, in effect, analogous capacity for exchange give to capital. It is not an arbitrary, but a natural thing; it is not the result of a particular social organization, but of the laws of the universe which underlie society. It is therefore just.

“We must not,” he adds, “think only of that which is paid by the user of capital to the owner of capital. Manifestly this is not all interest, but only some interest. Whoever uses capital and obtains an increase it is capable of giving, receives interest. If I plant and care for a tree until it comes to maturity, I receive in its fruit interest upon the capital I have thus accumulated, that is labor I have expended. If I raise a cow, the milk which she yields me morning and evening is not merely the reward of the labor then exerted, but interest upon the capital which my labor expended in raising her has accumulated in the cow. And so, if I use my own capital in directly aiding production as by machinery, or in indirectly aiding production in exchange, I receive a special distinguishable advantage from the reproductive character of capital, which is as real, though perhaps, not as clear, as though I had lent my capital to another and he had paid me interest.”

It is difficult to say which one of this series of propositions is the most inaccurate. Let us begin at the beginning. It is true that there are in nature about us active forces in constant operation which we may direct to the production of wealth. The vital forces are of this category, but they, by

no means, constitute the whole of it. These active forces which make for change are properties of matter no less surely than are the passive properties which offer resistance to change. A carpenter is able to put a finish on a board with a plane not merely because he applies his labor to the work, but because the board in the order of nature is so constituted that it may be polished in that way. Some boards take a better finish than others; and if he worked all day his plane would not make any impression on a pail of water or a heap of sand. A lumberman throws logs into a stream and the current carries them down to the boom. He takes advantage of the properties of water, its buoyancy and its disposition to run down hill in order to effect his purpose, which is the transportation of the logs. He puts the logs into the stream, says Mr. George, nature does the rest. Well, what of it? The cabinet maker moves his plane over the face of a rough walnut board, nature does the rest. Human labor gives the original impulse in both instances and the product is the joint result of the human impulse and the properties of matter. Mr. George's imagination is profoundly impressed by the thought that after having thrown his logs into the stream the lumberman may sleep while his timber is floating down to its destination; that the farmer may sleep while his grain is germinating and developing; that the shepherd may sleep while his flocks are multiplying. But the interpretation of this fact, so far as it is a fact, is exactly the converse of the one suggested by Mr. George. The explanation is not that in these instances the laborer receives some exceptional reinforcement from the so-called vital forces of nature, but rather that after he has done all that he can do he is compelled to wait a considerable time before he can enjoy the finished product. Indeed, this circumstance appears to be rather a disadvantage than an advantage. It may be an advantage to the lumberman to be able to float his logs down the stream rather than to drag them to the mill on a sledge; on the other hand it may be more advantageous

to use sledges. It might take longer to float them down than it would to drag them overland; and even though the labor required to drag them to the mill were greater than the labor required to drag them to the water, it might very well be that it would be more advantageous to transport them by land, because the object would be attained sooner. Men work for a definite result always, and the time which elapses between the initiatory labor and the perfection of the product is a loss or an obstruction to enterprise. It is not, as Mr. George supposes, a pension to idleness, but is directly a burden upon labor; not an aid but a discouragement. The length of time required for grain to germinate and ripen, for wine to mature, or for the logs to reach the boom strikes Mr. George's imagination and causes him to think that nature is co-operating with man in those instances in a manner distinct from that in which she lends her aid in the transaction of planing a plank. In truth this is not the case, the only real difference is that her response to the impulse of labor is slower in one case than the other. In one case the product progresses with the labor, and when the carpenter lays down his plane his finished product is complete and ready for use; in the other case when the labor is finished the product is not yet complete, tardy nature accepts the human effort as sufficient, but exacts a further delay before she offers the reward. The effect of these striking instances on the imagination will, however, be greatly diminished if we reflect that the same delay is observable in those very operations which Mr. George would class with the unassisted operations. We witness the same phenomenon when we see the cook sit down with her folded hands while waiting for the kettle to boil, the bread to rise, or the jelly to congeal, or when the cooper throws a heated hoop around his upright staves and waits for the contraction of the metal to bind them firmly into a solid cask. The delay in these cases is much shorter, but the principle is the same. Mr. George, however, would, I fancy, scarcely regard with interest the circumstance that

while the cook is sleeping the batter may be overflowing upon the kitchen hearth. Nevertheless, the difference is not one of definition, but purely one of degree in the emotion of wonder.

The phenomenon of increase in the number of units under the operation of the vital principle kindles Mr. George's imagination. A board which has been polished is still one board; but a handful of grain when planted will become a bushel after a year's time. But the number of equal units is *not at all a material circumstance*. *The aim of production is not the multiplication of units, but the gratification of new desires*. The carpenter planes the board in order that his finished product may gratify a new desire which could not have been satisfied by the plank in the rough. The new product is attained and the new desire gratified by a simple change of form without an increase in the number of similar units. The farmer or herdsman, on the other hand, does not attempt a change of form—he wants more grain or more beasts of the same form.

Some agricultural products are wholly destroyed in the first gratification of final desire. A man cannot eat the same apple twice. The same thing is true of some manufactured products, like fire crackers. In both cases a constantly recurring demand makes the rapid multiplication of similar units desirable. But in a well organized pyrotechnic factory, as in a pin factory, the ratio between the number of men employed and the number of units of product turned out in a year is hardly less striking than it is in an apple orchard or wheat field. Most agricultural products, other than edibles, are not consumed on the first gratification of final desire; the same thing is true of most manufactured products. In no case can a new product be obtained to gratify new desires, except on condition of a change of form in the matter from which it proceeds. The slabs which are worked up into a highly polished board can never again be used to make a rustic bench, and growing crops imply decaying seed. So, too, with animals which reproduce their

kind, their vitality slowly passes to their offspring; while reproducing they are wasting away. Man's agency in this last case is exactly what it is in cultivating the fruits of the soil; it is directed to modifying the conditions of reproduction and controlling the natural selection, and his reward is in the more certain increase and the more agreeable product. The farmer and the herdsman are doing exactly what the carpenter and ironworker are doing, namely, directing the change in form of material things with a view to the gratification of new desires; and in this there is no difference between the production which is aided by the "vital principle" and that which is not.

Mr. George's error, at this point, seems to be a modern echo of the mistake of the Physiocrats, who assumed that because a farmer could raise in a year more grain than he and his family could eat in the same period, his labor yielded a net product beyond the reward of his exertion.

But there appears in Mr. George's exposition another notion not less erroneous than the one we have hitherto discussed. It is the assumption that capital employed in effecting exchange yields an increase which is not the result of labor. This is a misconception for which Mr. George cannot plead by way of excuse the disturbing influence of the imagination. It is simply a defect in analysis and definition; a defect which is the more remarkable because if there is one faculty which Mr. George possesses in a pre-eminent degree it is the faculty of analysis and definition.

These are his words:

"There is also in the utilization of the variations in the powers of nature and of man, which is effected by exchange, an increase which somewhat resembles that produced by the vital forces of nature. In one place, for instance, a given amount of labor will secure two hundred in vegetable food or one hundred in animal food. In another place these conditions are reversed, and the same amount of labor will produce one hundred in vegetable food or two hundred in animal. In the one place the relative value of the vegetable to

animal food will be as two to one, and in the other as one to two ; and supposing equal amounts to be required, the same amount of labor will in either place secure one hundred and fifty to both. But by devoting labor in the one place to the procurement of vegetable food and in the other to the procurement of animal food and exchanging to the quantity required, the people of each place will be enabled by the given amount of labor to procure two hundred of both, less the losses and expenses of exchange : so that at each place the product which is taken from use and devoted to exchange brings back an increase. Thus Whittington's cat, sent to a far country, where cats are scarce and rats are plenty, returns in bales of goods and bags of gold."

It is true that the variant powers of nature and of man are the basis of the division of employments between individuals and communities, that an advantage arises from this division in the production of more wealth with which to gratify new desires, and that this advantage is distributed among the producers by means of exchange.

But it is not true that this advantage can be made the basis of interest, much less that it involves an increase which results from the employment of capital at any point, nor, indeed, which results from anything except the division of employments. The division of employments is the source from which the advantage arises, the cost of exchange is merely an additional obstacle to be overcome. When the exchange is effected and the cost of production and exchange is paid, the advantage is exhausted or at least it exists only in the possession of wealth fitted for the gratification of new desires. And that wealth, though it be greater in amount, that is to say, capable of gratifying more desires than would have been the case had the division of employment and the exchange not been resorted to, represents nothing after all but the wages of labor wisely directed. It is true that to effect the exchange both labor and capital may have to be employed, but nevertheless they constitute merely an intermediate step between the first application of labor to

the work of production and the final gratification of desire. The necessity for transportation is part of the resistance of nature to man's effort to satisfy his wants. It is difficult, therefore, to see how when a man overcomes that particular form of resistance, either with or without the employment of capital, an increase can arise which is not the reward of labor. Labor alone produces new forms for the gratification of desire. Exchange is merely a method of distributing the product. At bottom it is a reciprocal transfer of benefits, and where this is not the case, the one-sided transfer is not exchange, but spoliation. If I have made two coats and Mr. George has made two hats, and we desire to exchange a hat for a coat, we each experience a loss and gain, there is no increase. The actuating motive is a preference. He prefers a coat to his second hat, I prefer a hat to my second coat, hence the barter, and the sole advantage of that barter is the gratification of our respective preferences. In all this there is certainly no increase in wealth which is not the result of labor. Mr. George, in another portion of his work, has very clearly stated the principle that the gratifications which we purchase with the product of our labor through the medium of exchange are in substance the product of our labor. But this is only so because our product is the means of effecting the exchange on our part; it is the instrumentality through which we secure the gratification of our final desire, and this excludes the notion of increase. So much for Whittington's cat. Before dismissing this branch of the subject, however, let us examine a part of the closing paragraph of our first quotation from Mr. George. He says: "If I plant and care for a tree until it comes to maturity, I receive in its fruit interest on the capital I have thus accumulated—that is the labor I have expended. If I raise a cow, the milk which she yields me, morning and evening, is not merely the reward of the labor then exerted, but interest upon the capital which my labor expended in raising her has accumulated in the cow." That is to say, Mr. George maintains that the fruit and the milk represent

a distinct and spontaneous increase in wealth, which in part, at least, is in excess of the reward of the labor expended in feeding, protecting and milking the cow, while getting the milk, and in pruning and caring for the tree after it begins to bear and in picking the fruit. Now it is perfectly true that the milk and fruit do represent something more than the reward of labor of the current season, but that is the case only because the labor of the current season does not constitute all the labor which was required to bring about the result. When the tree was planted, the object was to obtain fruit, and when the cow was bred the object was to obtain milk. The fruit and milk are the reward of all the labor necessary to attain them, and they are the reward of nothing else. If the fruit tree never bears but one apple and then becomes barren, if the cow gives but one quart of milk, and then never gives any more, the labor previously expended would be rewarded, though insufficiently. If, on the other hand, the branches of the tree are laden with fruit and the cow's udder is heavy with milk with each recurring season through the long series of years the labor will be richly rewarded. But in each case it is the labor alone which is rewarded. In the same way a table is the reward of all the multifarious labor which precedes its completion, but in that case the reward is obtained all at once. Milk and fruit, however, are recurrent rewards which nature pays in installments. That is the only difference.

Furthermore, if it be proper at all to speak of capital as accumulated labor, which, by the way, I cannot admit, it seems quite clear that a return upon accumulated, like the return upon present labor, can be nothing else than wages, and Mr. George's characterization of capital at this point ought to have warned him that he was on the wrong track. Labor cannot be accumulated, it can only be expended. The products of labor can be accumulated, but such accumulation is not the reward of labor, but is, as Mr. George has elsewhere said, the reward of abstinence. The products of labor constitute wealth, and wealth will never reproduce itself to

meet the requirements of civilized man, except under the impulse of human labor directed to some point in the chain of causation. There are numerous recognitions of this truth in the passages which I have quoted from Mr. George. What is astonishing is that he should fail to recognize that this fact necessarily makes all increase the reward of labor. His vague notion that the increase can be in part the reward of necessary labor and in part the gift of nature is a fallacy similar to that into which Mr. Henry Carey fell when he ventured the assertion that the value of the land was the price of the labor expended in improving it and in support of his hypothesis asserted that no land would now sell in the market for more than the value of a part of that labor. Mr. George has frequently expressed his approval of Professor Walker's admirable flagellation of this most flagrant of Mr. Carey's many crimes against the laws of logic. If he will impartially compare Mr. Carey's lucubrations on the value of land with his own remarks on the spontaneous increase of capital, he cannot fail, I think, to be convinced of the similarity of the two mental processes. Up to this point the argument has proceeded upon a tacit admission of Mr. George's assumption that there are instances of production where all the labor is done at once, and then during a considerable period the work of production goes on through the efficient working of the vital forces without the further co-operation of the laborer. We have already shown that if such was the case it could not be an advantage to the laborer. The cost of production would be made up of two elements, the labor expended directly, or indirectly, through the use of accumulated capital, and compensation for the delay. And even if the delay could be considered an advantage it would be lost in exchange. The product could not be exchanged for more than its equivalent in labor cost. There would, therefore, be no increment from which interest could be derived.

In point of fact, however, I think we may safely assert that there is no instance in the whole range of production

where man can give the original impulse and then enjoy absolute rest for any considerable time while nature completes the work of production. And unless such a rest is enjoyed by a favored laborer for a considerable period, he could gain no advantage over his fellows. If, substantially, he has to work all the time during the working hours, the spontaneous efficiency of nature is in his case a delusion. And, actually, this is just what occurs in practice. The farmer does not plant his seed and then fold his hands until harvest. He is constantly at work cultivating and guarding or preparing for the reaping and garnering. It seems little to the purpose that wheat grows by night while the farmer sleeps, if all his days are consumed in its cultivation, or at least in maintaining the complex institution of the farm, which is the condition of a profitable production of wheat. Sheep, cattle and bees will not reproduce their kind to advantage without constant care and attention. Logs thrown into a stream will not all reach the boom unless the lumberman follows in a boat to dislodge those which are cast ashore. Wine will never reach perfection unless it be watched and protected from the elements and from depredation. Continuous labor is therefore the condition of all new wealth, and Mr. George's hypothesis fails upon all grounds.

Let us now consider Mr. George's analysis of Bastiat's justification of interest by the illustration of two carpenters and a plane, in which William borrows a plane from James and agrees to return the plane at the end of the year together with a plank.

Those who dissent from Mr. George's analysis of this illustration usually place the distinction between —

(a) The number of planks which William can make in a year *with* a plane, and

(b) The number of planks which he would make in the same time *without* any plane; and then derive interest from the efficiency which the employment of capital gives to labor.

It is admitted on all hands that William will have more

planks at the end of a year if he uses a plane than he will have if he works without any plane.

That, therefore, is not the question. William, like James, can produce a plane with ten days' labor. The question is (a) shall he borrow of James on the terms of the illustration, or (b) shall he make his own plane in the first instance? If he does borrow, where shall he find his profit in so doing?

I am far from averring that he will not be benefited by borrowing: but I take it that Mr. George has demonstrated beyond the possibility of contest that his profit will not be in the *number of planks* in his possession at the close of the year.

Consider the position of the two parties to the transaction at the beginning of the year. It is the first day of January. James has a plane, William has none. James can go to work at once and produce planks under the most favorable circumstances. William cannot: he must first make a plane or borrow one. If he borrows that plane of James on the day named, the conditions of the parties are reversed, but there is no change in the total productive capacity of the two men expressed in planks. A plane is the product of ten days labor, and is good for the production of two hundred and ninety planks in as many days and no more. At the end of two hundred and ninety days the plane is assumed to be worn out in accordance with a natural law, thus taking account of the physical fact that capital is consumed in the use and must be replaced from time to time. Bastiat overlooked this circumstance in his illustration, a defect which Mr. George corrects, and then proceeds with his analysis. Each of the two men will produce two hundred and ninety planks during the three hundred working days of the year, no more and no less. It is perfectly clear that two planes are necessary to that production, but as far as the total annual product is concerned it is entirely immaterial whether William or James takes the first ten days of the year to make the second plane. It is perfectly clear that if William does not borrow but makes his own plane, he will have at the

close of the year two hundred and ninety planks and no plane ; whereas, if he does borrow, he will have at the close of the year two hundred and eighty-nine planks and no plane, an evident diminution in the amount of the product as the result of the transaction. On the other hand, if William does not borrow, James will commence work on the first of January and produce during two hundred and ninety days, two hundred and ninety planks, and he will employ the last ten days of the year in making a new plane : that is to say, at the end of the year James will have two hundred and ninety planks and a plane. If William does borrow, James will employ the first ten days of the year in making a plane just as William must otherwise have done, then he will produce two hundred and ninety planks during the remaining two hundred and ninety days, at the end of which time the plane will be worn out, and on the result of his own labor he would have two hundred and ninety planks and no plane. But on Sylvester Eve William calls to settle, and then James finds that the result of his labor and the transaction with William is that he has two hundred and ninety-one planks and a plane, an evident gain of one plank on the year's work.

Now there is no escape from the conclusion. Expressed in the terms of the product, the transaction must always show a loss to the borrower and a gain to the lender.

If it be suggested in reply to the foregoing that William finds his profit in borrowing and paying interest, because he has not what is styled sufficient "capital" to sustain life while he makes a plane during the first ten days of the year, the answer is five-fold.

1. The term of labor which we are considering is not ten days but one year of three hundred days. If the necessity to sustain life during production and independently of production is an element during any portion of the year, it must be so for the whole year, or else we get an inconstant factor in the problem. The ability to sustain life independently of production is silently assumed throughout. If this

be not so interest, instead of being derived, as was suggested, from the efficiency of capital, depends on the price of subsistence: and the assumption is then inconsistent with the conclusion.

2. If William cannot subsist ten days while he makes a plane, how can we suppose him able to subsist during the first day while he is making a plank with his borrowed plane, not to speak of making planks without a plane.

3. If William cannot subsist during the first ten days while he makes a plane, neither can James while he makes himself a new plane. Unless the parties are on an equal footing in every respect, except as to the possession of a plane, we cannot raise the precise question of interest paid for the use of the plane. If they are on an equal footing, and neither can produce a plane for want of food, there will be no lending or borrowing, for the effect would be to reduce James to the same position of impotence which William occupies, and his first move would be to borrow back his plane, in case he lent it.

4. The amount consumed by the laborer to satisfy the needs of life during production, is not capital, but it is product which has reached its final destination. Capital is the product of labor which has not reached its final destination—it is product employed for the creation of other product which will be used in its turn, either mediately or immediately to satisfy some final desire of man. Such consumption, therefore, is not a part of production, but is the aim of all production. It is an error, therefore, to style such material, in the hands of the producing agent, capital.

5. But even if we might properly call such material capital, the suggestion opens an endless vista of conditions and involves a *petitio principii*. The question is, under what conditions is it profitable for the laborer to borrow capital and pay interest for the use? The reply is, when he has no capital with which to produce capital. If such an answer is permissible, the discussion is impossible, for we never get a starting point. In this discussion we can only deal with

that capital which is the borrower's primary need. If the element which is thus injected into the question properly belongs there, then, in order to have an investigation at all, we must transpose the problem and shift the discussion to the advisability of William's borrowing and paying interest for ten days' subsistence. The capital which the laborer is required to borrow is the capital which will set his labor in motion under improved conditions, and according to the reply that capital is not the plane but ten days' subsistence. Therefore, we must drop the plane, and take up the question whether William might better borrow the subsistence and pay interest for it, or go out and gather his own subsistence. In other words, the objection knocks the problem into pi, as the printers say. It is this fact which makes it proper to assume throughout the ability of William and James to sustain life during the entire year independently of plane and plank making. We mean, that they can sustain life and make a plane in ten days and a plank a day for two hundred and ninety days. If we do not make this assumption a part of the case, we do not raise the issue of borrowing versus production of capital by the borrower; we practically deny the borrower's ability to produce the capital, which was part of our hypothesis. If we deny the borrower's ability alone, we produce an inequality which makes the question incapable of solution. If we deny the ability of both lender and borrower, we deprive the question of all rational interest, by destroying the point of departure.

The basis of interest seems to me to be truly in the element of time, but in a different sense from Mr. George's conception. The object of all production is enjoyment: present enjoyment is an advantage over future enjoyment. If William borrows the plane he will have completed his two hundred and ninety planks and have entered into the full enjoyment of two hundred and eighty-nine of them ten days before the end of the year; whereas James cannot complete his work until New Year's Eve. He loses and William gains the opportunity for enjoyment of the product during

those last ten days of the year, and this respective loss and gain is equalized by the payment of interest. If we can explain interest in this way, the transaction takes its place in the category of exchange and we get a comprehensible basis for the payment of the transaction itself. Interest, then, is in truth the reward of abstinence, not in the sense that accumulation is the reward of abstinence, but in the sense that every exchange is the reward of abstinence—an enjoyment lost is compensated by an enjoyment gained. James abstained during the ten days in which he produced the original plane; the result was the accumulation,—the plane. The abstention or loss was to himself, and the accumulation or gain was to himself. The transaction is subjective throughout. He is now, however, in the position to enjoy the plane if he chooses to do so. That is consumption. He may not choose to do so: he may prefer to exchange it with William for a spade. If he does so, he abstains from the enjoyment of the plane and transfers that enjoyment to William. This abstention is not purely subjective, it is made for the benefit of William, and James will not so abstain unless he receives a compensating benefit from William, which, however, he does receive when he gets the spade. In the transaction of barter the abstinence is absolute—the plane never comes back. The same thing is true of William and the spade—the spade never comes back to its original owner. But for a thousand reasons the transaction of barter may not suit one or both of the parties, and they agree upon a modified form of exchange. William asks the loan of the plane and *ex vi termini* promises to return it at a future date, in our case the end of the year. James' abstinence is not absolute, but temporary; he cannot, therefore, expect the same reward. As he is to get the plane back he cannot demand the price of the plane. But his abstinence, though temporary, is defined and certain. What shall he then demand? He cannot demand the loss in product which would accrue to him during the year, on the supposition that he goes without a plane during the

entire period, for that loss is exactly the gain which accrues to William, during the same period, from the use of the plane over the product of his unaided labor. If William pays over that gain he has no inducement to use a plane at all, and the loan or modified exchange will not take place. Nevertheless, if the basis of interest is the added efficiency which capital gives to labor, there is no reason why James should demand anything less. The added efficiency is the measure of James' loss and William's gain and the parties are not placed upon an equal footing until William makes good, by the transfer of his gain, the loss which James has sustained. A loan at interest, explained by the added efficiency which the use of capital gives to labor, would then become as fruitless in economic relations as identical propositions are in logic. "The greatest happiness is the greatest happiness"—the gain of the borrower must be surrendered to compensate the loss of the lender.

Bastiat's solution is: No, William will not pay over all his gain, but he and James will agree on a division of it. But upon what basis will they divide? So far as any explanation which Bastiat suggests is concerned, they might as well cast lots. When Bastiat calls to his aid that economic pack-horse, supply and demand, the answer is immediately at hand, to wit, that he has passed beyond the bounds of the discussion. He has called in a foreign element, to wit, other lenders and other borrowers in order to get a basis of division between the typical borrower and the typical lender. That is a confession of defeat. He must show a basis of division between James and William independent of everybody else. If we do not do this, whatever light we may throw on the fluctuations in the rate of interest in actual practice, we contribute nothing to the settlement of the theoretic basis of interest. The influence of supply and demand is always a secondary cause. What we are now trying to discover is the primary cause; that is to say, what interest is paid for in the typical case. If James is entitled to claim as his own the added efficiency which the use of the

plane gives to William's labor, and he gets the whole of the product, which represents that added efficiency, aside from the inherent absurdity that one freeman can be entitled in any way economically to the product of another freeman's labor, James, when he receives that payment and his plane will clearly have been paid for doing nothing for a whole year. William evidently has no reason for paying James to remain idle. If James does not get the whole of this increase of product, but, as Bastiat says, gets some part of it, he is still paid for remaining idle to the extent to which he does receive something.

William has no more reason for making the lesser than he has for making the greater payment. He will never work merely to sustain James in idleness for a time long or short. And the question can never assume any other aspect if we seek the basis of interest in the advantage which accrues to William as a producer independently of any loss which James sustains. Whether James be seller or lender, and William buyer or borrower, James can never get any portion of the benefit accruing to William on the transaction, because, as that benefit is William's motive, unless William gets it, and gets it all, he will not make the bargain. Still less will he undertake to pay James for remaining idle. He will only compensate James for the sacrifice which he asks him to make. What is that sacrifice in the case in hand?

Assuming then, as we must, that James continues a productive agent during the entire year, as he would have done had he retained his plane, (and we are compelled to assume this, because by lending his plane he is not reduced to enforced idleness, which would be the only idleness which William could consider) his only sacrifice is a delay of ten days in the enjoyment of his final product. William, on the other hand, receives a corresponding gain in the advancement of the hour for the enjoyment of his final product. James demands compensation for this sacrifice. William pays the compensation because he gets a corresponding

advantage. How much shall he pay? That must depend upon treaty. There is no normal measure except the relative intensity of the conflicting desires for early enjoyment. There is certainly no room for such a measure as the "cost of production" because there is no exchange of products; and by no possibility, in the case stated, could William secure as the product of his own labor the gain in time which the loan assures to him. A material product is given for something which is not a material product. The transaction, as far as the mere payment of interest is concerned, is analogous to the sum paid to a singer. In a complicated social state, supply and demand regulate the price of opera tickets and the rate of interest; that, however, is not a fundamental, but a secondary consideration.

DWIGHT M. LOWREY.

Philadelphia.